REMARKS

AMENDMENT TO SPECIFICATION

The specification has been amended to correct clerical and typographical errors. No new matter was added; thus the amended specification does not exceed the scope of the originally filed application.

REJECTIONS (CLAIMS)

35 USC 112, first paragraph

Enablement

The Office has rejected claims 1-29, 31 and 32 under 35 USC 112, first paragraph, as failing to comply with the enablement requirement. The Office states that the claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to make and/or use the invention. The Office further states that it is not clear what is meant, and what structure is being set forth, by the disclosure and claiming of the spring rate of the solenoid spring substantially matching the power curve of the solenoid assembly. The Office also states that FIG. 13 does not set forth any particular structure of a solenoid and/or spring.

The Office particularly referred to pages 20 and 21 of the specification as not being clear what structure is being set forth; however, those pages of the specification disclose the characteristics of the solenoid spring and the solenoid assembly of the present invention. The specification states that the

spring rate of the solenoid spring is the "ratio of load over distance of compression". (Page 20, lines 4-5). Hence, the spring rate measures the amount of load exerted to compress a spring a particular distance. The specification also refers to the power curve of the solenoid assembly and states that a "conventional linear solenoid generates less force at the beginning of its stroke, with the force increasing through the stroke." (Page 20, lines 18-20). The strength of the solenoid assembly at the beginning of its stroke or power curve is the point where it is the least efficient. (Page 21, lines 6-8). The force of the solenoid assembly increases through its stroke, resulting in a non-linear solenoid power curve.

The structure of claim 1 is advantageous for several reasons. For example, a solenoid spring that matches the power curve of the solenoid assembly permits a lower current solenoid to be used. Using a lower current solenoid "allows for the solenoid to operate at a cooler temperature and can extend the operational life of the solenoid." (Page 21, lines 12-13). Thus, utilizing a solenoid spring having a spring rate that is "matching" or "substantially matching" the power curve of the solenoid assembly enhances the efficiency and longevity of the present invention.

The specification states that "[m]any different springs can be used having many different longitudinal and cross-section shapes, such as conventional helical springs, with a preferred spring having a conical longitudinal shape that provides advantages over conventional springs." (Page 15, line 30 - Page 16, line 1). The specification does not limit the invention to any particular type of spring, nor does the specification set forth a more specific structure of the solenoid that is paired

with the spring. The specification discloses an embodiment of the invention wherein the solenoid spring is conical.

The Office states that the graph of FIG. 13 does not set forth any particular structure of a solenoid and/or spring. Applicant submits, however, that the structure is sufficiently described to enable one of ordinary skill to make and use the invention. FIG. 13 contrasts the spring rates of a conical solenoid spring and a helical solenoid spring. A spring rate is a characteristic present in all springs, and a power curve exhibits characteristics of all solenoids. Many different types of springs and solenoids can be used within the scope of claim 1. However, the choice of the spring and solenoid is limited such that the spring rate substantially matches with the power curve, allowing the device to operate with maximum efficiency. The data table below the graph illustrates an advantage of using a conical solenoid spring in place of a helical solenoid spring. A helical spring exerts an equal or linear force throughout its compression stroke; whereas, a solenoid spring "exerts much less pressure at the beginning of its compression stroke compared to the end of the stroke." (Page 20, lines 29-31). The conical spring, as used in one embodiment of the electric door lock of claim 1, provides the advantage of the "solenoid spring experiencing less stress on the spring material, which can result in the spring operating longer without a failure." (Page 20, line 32 - Page 21, line 2). Springs and solenoids are common elctromechanical elements that are well known in the art. Claim 1 does not limit these two components to any particular structure. Instead, the claim limits the spring/solenoid pairing such that it has a particular measureable characteristic (i.e., the spring rate substantially matches the power curve of the

solenoid).

The specification is clear as to the structure which is being set forth. Therefore, the claims contain subject matter that is sufficiently described in the specification to enable one skilled in the art to make and/or use the invention.

Applicant requests a withdrawal of the rejection of claims 1-29, 31 and 32 under 35 USC § 112, first paragraph.

CONCLUSION

Applicant respectfully submits that claims 1-29, 31 and 32 are allowable and request that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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